

EFFECT OF SCHOOL PLANTS CONSERVATION ON MANAGEMENT OF PUBLIC JUNIOR SECONDARY SCHOOLS IN RIVERS STATE, NIGERIA

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ABSTRACT

This study investigated the effect of school plant conservation on the management of public junior secondary schools in Rivers State, Nigeria. The study was driven by two distinct objectives, research questions, and null hypotheses. Utilizing a correlational research design, the investigation was conducted. 266 Principals from 266 Schools in Rivers State formed the population for this study, with a sample size of 150 respondents selected through random sampling. To gather data, the researcher developed a questionnaire named the School Plant Maintenance and Effective Administration Questionnaire. The research questions were answered using mean and standard deviation analysis, while the Pearson Product Moment Correlation was used to test the hypotheses at a significance level of 0.05 using in SPSS. The study revealed the strategies employed by principals in maintaining school facilities, as well as the administrative obstacles they face in this regard. The study recommended that principals in public junior secondary schools in Rivers State carefully consider their options when it comes to maintaining the school plant. To ensure effective maintenance, the government should hire professionals with the necessary expertise for each school. Additionally, principals should address any administrative challenges they face in maintaining the school plant.

Keywords: Conservation, Maintenance, Management, Public School, and School plants,

Introduction

An efficient teaching and learning environment is impossible in a poorly maintained school facility. The achievement of effective and efficient school plant management requires undistracted efforts of qualified administrators. This connotes the involvement of a certified administrator in the efficient and effective management and maintenance of the school plant. Effective administration is very important for the efficient and successful execution or achievement of all human organization's goals and objectives. The success of an educational institution hinges on the efficient management of both its human and material resources. To ensure optimal teaching and learning outcomes, teachers must have access to essential instructional materials, facilities, and equipment within the school environment. Without these resources in place, the institution may struggle to meet its objectives and fulfil its mission effectively.

Management involves the strategic coordination of human and material resources within an organization to achieve specific goals. The process of management involves strategizing, coordinating, leading, and overseeing tasks to achieve the goals of the organization productively and successfully. The term administration could also be seen as the integration of parts of management which is concerned with enhancing the attainment of the goals and objectives of an organization through organized management of challenges and judicious use of the available limited resource. This indicates that administration is an integral part of management whose major target is the successful attainment of an organization's goals and objectives is crucial for its overall success.

According to Olorunsola and Belo (2018), managerial challenges are the hindrances to the method of school management. These are the issues encountered when using principals inside the path of doing their obligations and that could affect the attainment of institutions' goals. The life of a man is full of challenges but what matters most is how he can cope and overcome such challenges.

Onwurah (2004) defines a school plant as the physical infrastructure and resources within an educational institution, including buildings, playgrounds, and equipment, that support the teaching and learning process. Essentially, the school plant encompasses all material assets utilized in the school to enhance the effectiveness of instruction and learning.

School plants could also be seen as a piece of land and facilities or equipment allocated in such a piece of land which is aimed at facilitating effective teaching and learning. The facilities of equipment in this context are the school building which includes classrooms, science and language laboratories, local craft, home economics hall, electrical/electronic workshop, staff rooms, and libraries. School pieces of equipment include – school desks, chairs, chalkboards, bookshelves and teaching aids, while sports/games equipment includes – football, sports trophies, javelins, table tennis and other sports/games equipment. It is obvious that for any administrator to succeed in maintaining the school plant, he should apply some management strategies.

School plant management strategies, therefore, include those series of ways, procedures and actions that the school principal must not ignore, but has to employ as preventive measures to derive optimum benefits in their utilization (Inyang 2002; Kalagbor, 2017). Meanwhile, the management of the school plant is the responsibility of any stakeholder in education; the principal is expected to consider it as an integral part of the internal school administration. Thus, the school principal is expected to develop and implement good management programmes based on a broad knowledge of maintenance techniques (Kalagbor, 2017).

The explanations and the definitions above deduce that school principals are duty-bound to use any fruitful management outline to sustain existing school plants for noticeable academic achievements in the school system. One significant obstacle to the current situation is the decreasing budget allocation to the education sector. Specifically, the funds designated for infrastructure projects in education by the state government fall short in meeting the need for new school facilities and expanding existing ones. Consequently, there is a rise in overcrowded classrooms in junior secondary schools across the state.

The state is facing a critical issue with its uncontrolled birth rate, leading to a rapid increase in population growth. This pathetic condition has created the challenge of an overcrowded number of students of school age and unnecessary pressure on the smooth administration of the school system. The school plant's rapid deterioration is primarily attributed to the Universal Basic Education Board (UBEB) failing to provide regular maintenance services and the neglect of necessary care by school staff and students. This lack of attention leads to a decline in the overall condition of the school facilities, hindering the learning environment for everyone involved.

Statement of the Problem

School plant which means the school facilities include school building which may also be identified as the classrooms, laboratories, local craft hall, home economic hall, electrical/electronic workshops, staff rooms, dining hall, libraries and students hostels; school equipment which includes the school desks, chairs, chalkboard, bookshelves, cutting machines, computers and other teaching aids; sports/games equipment which includes the football, jolly ball, basketball, sports trophies, field and track events equipment, table lawn tennis and other sports/games equipment, the location of the school is not left out as part of the school plant. All these components are necessary for the administration of both curriculum and extracurricular activities in the school system. The researcher had observed and even noted through previous research that one of the reasons why Universal Basic Education failed was because of poor infrastructural facilities which may be dependent on school plant maintenance.

As a result of the situation described, it is evident that many school principals in junior secondary schools in Rivers State have not been implementing effective maintenance practices for their school facilities. This has led to widespread issues such as deteriorating buildings, damaged furniture, broken windows and roofs, as well as overgrown surroundings in numerous public junior secondary schools across the state. The current state of the school facilities could be hindering

the smooth running of schools, prompting a study on how principals handle maintenance to ensure efficient administration. This research aims to explore the strategies employed by principals in maintaining school plants to enhance overall school management.

Aim and Objectives of the study

The study is aimed at examining school plant maintenance and effective administration of public junior secondary schools in Rivers State. The study aimed to achieve the following specific objectives:

1. To enumerate the options principals use in the maintenance of the school plant.
2. To examine principals' administrative challenges in the maintenance of the school plant.

Research Questions

1. What options do principals utilize in the maintenance of the school plant?
2. What are the principals' administrative challenges in the maintenance of the school plant?

Hypotheses

The study tested the hypotheses outlined below:

1. There is no significant relationship between the options principals use in the maintenance of school plants and effective administration.
2. There is no significant relationship between the principals' administrative challenges in school plant maintenance and effective administration.

Review of Related Literature

Theoretical Framework

This study is anchored on the Henri Fayol Management Theory of 1916, as cited in Kalagbor (2015). Henri Fayol, a French Mining Engineer, in 1916 propounded the Management Theory with experience from the publication of his book *Administration Industrielle et Generale* (General and Industrial Management). Van-Vliet (2009) references Fayol's (1916) theory which emphasizes the importance of maintaining a strong relationship between managers and their personnel to effectively manage administrative responsibilities. This theory is based on 14 administrative principles that were among the earliest theories of management developed and are still considered one of the most comprehensive by Hodge (2002). Fayol's principles continue to be relevant in modern management practices.

To ensure the efficient management of Public Schools in Rivers State, it is imperative to establish a structured administrative framework, delineate roles and responsibilities clearly, and empower administrators with appropriate levels of authority. Given that principals are tasked with designing, planning, and managing school facilities, the theory aims to develop rational strategies for effectively managing school plants. This approach is crucial for ensuring efficient administration within the educational system in Rivers State.

The principles of school management, particularly about its facilities, are essential for effective planning, decision-making, and control. These principles, based on Henri Fayol's research, provide a practical framework for managing schools that is still relevant today. Despite their simplicity, many of these principles are often overlooked in current school management practices, highlighting the importance of applying logical and strategic approaches to ensure efficient operations.

Conceptual Review

School Plant

Enaohwo and Eferakeya (2009) described school plants as encompassing all physical infrastructural resources within a school that facilitate the education of students, including buildings, equipment, and tools used by both teachers and learners. Ojedele (2008) expanded this

definition to include not only the physical structures on the school site but also any other facilities that have been established to enhance the teaching and learning process within the school system. These elements collectively form the foundation for effective education delivery within a school environment. According to Ogbodo (2015), the school plant encompasses a range of educational resources such as classrooms, assembly halls, laboratories, workshops, and libraries. Additionally, teaching aids such as magnetic tapes, films, and transparencies are also considered part of the school plant. These components are essential for the educational environment and play a crucial role in facilitating learning and development.

Odor (2005) defines a school plant as the physical space and resources that school administrators and their reference groups manage, allocate, utilize, and upkeep to facilitate efficient school operations. This includes the buildings, facilities, and grounds necessary for effective school management. Ani (2017) defines a school plant as the physical infrastructure of a school, including buildings and equipment used to support the teaching and learning process. This encompasses both stationary structures like classrooms and laboratories, as well as movable items such as furniture, chalkboards, tools, machines, and audiovisual aids. The school plant is crucial for creating an environment conducive to education and academic success. According to Onwurah (2004), a school plant encompasses the physical structures of a school, including buildings, playgrounds, and equipment, all of which are essential for facilitating successful teaching and learning. Ogunu (2000) further elaborates on this concept by defining school plants as the educational resources that empower a proficient teacher to achieve a higher level of instructional effectiveness that would otherwise be unattainable. These components collectively contribute to creating an environment conducive to academic growth and development within educational institutions.

The concept of a school plant encompasses the physical resources that support the educational process within a school. School plant plays a crucial role in achieving educational objectives, highlighting their significance in the school environment. The term school plant encompasses all permanent physical structures and facilities within a school that support teaching and learning activities. These facilities are essential for creating an effective educational environment and achieving the goals of education. Additionally, the school plant includes the physical space on the school grounds that houses essential systems and structures.

Managing School Plant

The effective management of school facilities is crucial for ensuring optimal functionality within the educational system. This involves strong leadership, regular monitoring of both the users and the facilities, as well as implementing a solid maintenance culture to maximize the services provided by the school plant (Allen, 2015; Lawanson & Gede, 2011; Xaba, 2012). Teaching and learning practices aim to facilitate meaningful behavioural transformation in learners through fostering critical thinking skills (Asiabaka, 2008).

Stoner et al.(2016) define the environment of an organization as encompassing all elements pertinent to its functioning, including both direct and indirect action components. They argue that school facilities play a crucial role in shaping the learning environment, serving as major components of both types of actions. Direct actions are those emphasized by teachers during instruction, while indirect actions are those that manifest unconsciously in learners. According to Nwagwu (2008) and Ogusanju (2010), the quality of education children receive is closely tied to the presence or absence of physical facilities and the overall learning environment. When there is a shortage of physical facilities, teachers may not have the necessary resources to effectively carry out their duties, leading to a decrease in the quality of learning. The importance of quality learning cannot be overstated.

According to Odor (2005), the school plant not only enhances the beauty of the school environment but also adds to its attractiveness. He highlights how elements such as trees, colourful pitches, painted buildings, and flowers contribute to creating a visually appealing

campus. Additionally, research has indicated a correlation between the maintenance of facilities and academic performance in schools. According to Lowe (2010), maintaining school facilities can have a positive impact on teachers by providing them with a sense of security and motivation, ultimately leading to increased dedication. Conversely, neglecting maintenance can result in feelings of hopelessness and dissatisfaction among both teachers and students.

Certain principles should be followed in the administration of the school plant management and maintenance programme to ensure its effective development and operation. These guidelines serve as a framework for maintaining the school facilities in optimal condition. Manga et al.(2013) suggest that creating a conducive learning environment and ensuring proper care of school facilities are essential. It is important to clearly outline the responsibilities of all staff members and provide them with detailed job descriptions. Additionally, effective planning and scheduling of maintenance activities are crucial to optimize manpower utilization.

Empirical Review

Igbokwe's (2009) examine the management of physical resources at the Federal College of Education, Akoka. Four research questions and hypotheses were developed and tested at a significance level of 0.05. A descriptive survey design was employed, with data collected through questionnaires. The study encompassed a total population of 320 individuals, including 122 academic staff and 198 non-academic staff consisting of senior staff and Administrative personnel. No sampling method was utilized in gathering data for the research. After analyzing the collected data, the researcher utilized mean calculations to conclude. The results revealed that there was ineffective management of physical resources by both the college and users, leading to overutilization of available resources.

Alonsabe (2011) found that the deteriorating state of school infrastructure in Nigeria is often attributed to the limited resources available to school administrators. Despite their best intentions to implement maintenance programs, inadequate funding prevents them from making significant improvements. This lack of financial support also hinders their ability to acquire necessary maintenance tools and carry out regular upkeep on school facilities. The results of these studies suggest that there is a lack of focus on plant maintenance in government budgets, at both the state and federal levels. While funding is allocated to schools by governments, it is consistently insufficient to meet the needs of maintenance and upkeep.

Methodology

The study utilized a correlational research design and involved a population of 266 Principals from public J.S. schools in the study area (Sourced: RSUBEB, 2023).

A total of 150 Principals from the schools in the study area were selected as the sample for the study, representing approximately 56% of the total 266 schools in the region. The selection process utilized a random sampling technique to ensure unbiased results. Subsequently, the collected data underwent thorough statistical analyses for interpretation and conclusions. The research questions were answered using the Mean (\bar{x}) and Standard Deviation (SD), while the hypotheses were tested at the 0.05 level of significance with the Pearson Product Moment Correlation Coefficient as the inferential tool. The Statistical Package for Social Science, Version 22, was utilized for data analysis in this study.

Findings

Research Question One: What options do principals utilize in the maintenance of the school plant?

Table 1: Mean and SD of the strategies options principals utilize in the maintenance of school plant

S/N	Items	Responses (n = 127)			
		Weighted Value	\bar{x}	SD	Decision
.1	Principals carry out design selection for school plant maintenance	269	2.12	1.17	Disagreed
.2	The principal facilitates the installation of equipment and systems when necessary	357	2.81	0.92	Agreed
.3	Principals carry out regular inspections of school plants	367	2.89	1.00	Agreed
.4	Principals carry out regular record keeping of all inventory of school plant facilities	298	2.35	1.24	Disagreed
.5	Principals facilitate adequate lubricating, painting, and adjusting of school plant facilities	319	2.51	1.09	Agreed
.6	Principals carry out periodic repetitive servicing, repairs or overhauls of school plant facilities	299	2.35	1.03	Disagreed
Grand Mean/SD			2.51	1.08	

Source: Researcher's Field Survey, 2024.

The data presented in Table 1 illustrates the strategies employed by principals in maintaining the school infrastructure. It was found that a significant number of participants endorsed items 2, 3, & 5, surpassing the criterion mean of 2.50. Conversely, items 1, 4, & 6 received lower mean scores below the criterion mean, indicating disagreement among respondents regarding their effectiveness in school plant maintenance. The findings suggest that principals employ various strategies to maintain the school plant. These strategies involve overseeing the installation of equipment and systems as needed, conducting routine inspections of school facilities, and ensuring proper maintenance through lubrication, painting, and adjustments.

Research Question Two: What are the principals' administrative challenges in the maintenance of the school plant?

Table 2: Mean and SD of principals' administrative challenges in the maintenance of school plant.

S/N	Items	Responses (n = 127)			
		Weighted Value	\bar{x}	SD	Decision
.7	Inadequate Funds	386	3.04	0.92	Agree
.8	Poor quality of facilities and equipment	395	3.11	0.76	Agree
.9	Lack of knowledge and interest of staff in school plant maintenance	371	2.92	0.77	Agree
.10	Negligence of administrative roles by the school administrator due to sheer apathy	394	3.10	0.72	Agree
.11	Lack of qualified maintenance personnel	371	2.92	0.76	Agree
.12	Vandalization and misuse of school facility	369	2.91	0.76	Agree
.13	Extreme environmental condition	216	1.70	0.89	Disagree
.14	Mismanagement of maintenance funds	488	3.84	0.43	Agree
.15	Attitude of school administration	472	3.72	0.60	Agree
Grand Mean/SD			3.03	0.73	

Source: Researcher's Field Survey, 2024.

The data presented in Table 2 highlights the administrative hurdles faced by principals in maintaining school facilities. The findings reveal that most respondents agreed with items 7-12, 14, and 15, as their mean scores exceeded the criterion mean of 2.50. However, there was disagreement among respondents regarding item 13, as its mean score fell below the criterion mean. The difficulties faced in maintaining the school infrastructure encompass a range of issues. These include mismanagement of maintenance funds, lack of proper oversight by the school administration, insufficient funding for upkeep, substandard quality of facilities and equipment, lack of awareness and engagement from staff regarding maintenance practices, neglect of administrative responsibilities by school leaders due to disinterest, shortage of skilled maintenance staff, and instances of vandalism and misuse of school property. Addressing these challenges will require a comprehensive approach to improve the overall condition and functionality of school facilities.

H₀₁: There is no significant relationship between the options principals use in the maintenance of the school plant and effective administration.

Table 3: PPMC analysis on the relationship between the options principals use in the maintenance of school plant and effective administration
Correlations

		Eff.Admi n	SPUs
Eff.Admi n	Pearson Correlation	1	0.06
	Sig. (2-tailed)		0.48
	n	127	127
SPUs	Pearson Correlation	0.06	1
	Sig. (2-tailed)	0.48	
	n	127	127

Table 3 shows that there is a positive correlation ($r = 0.06$), and very weak ($r = 0.01$; $r \leq \pm 0.0$ to ± 0.19), correlation between the tactics employed by principals to upkeep school facilities and the successful management was examined. With a p-value of 0.48, which is greater than the threshold of 0.05, it was determined that there is no substantial connection between the strategies utilized by principals for maintaining school infrastructure and ensuring effective administration. As a result, the first null hypothesis is upheld at the 0.05 significance level.

H₀₂: There is no significant relationship between the principals' administrative challenges in school plant maintenance and effective administration.

Table 4: PPMC analysis on the relationship between the principals' administrative challenges (Admin. Chs) in school plant maintenance and effective administration (Eff. Admin.)
Correlations

		Eff.Admi n	Admin.Chs
Eff.Admin	Pearson Correlation	1	0.77**
	Sig. (2-tailed)		0.00
	n	127	127
Admin.Chs	Pearson Correlation	0.77**	1

Sig. (2-tailed)	0.00	
n	127	127

** . Correlation is significant at the 0.05 level (2-tailed).

Table 4 indicates that there is a positive correlation ($r = 0.77$), and strong ($r = 0.75$; $r \leq \pm 0.6$ to ± 0.79), the study aimed to investigate the correlation between principals' administrative difficulties in maintaining school facilities and successful management. The results revealed a significant relationship between these challenges and effective school administration, as evidenced by a p-value of 0.00 which is less than the significance level of 0.05. Therefore, the second null hypothesis is rejected, indicating a strong association between principals' administrative challenges in school plant maintenance and overall effectiveness.

Discussion of Findings

The result of research question one indicated that principals in public junior secondary schools in Rivers State employ various strategies for maintaining school facilities. These strategies include repairing facilities as needed, conducting regular inspections and servicing to prevent breakdowns, and addressing repairs promptly after a breakdown occurs. Furthermore, the result of hypothesis one revealed that there is no substantial correlation between the strategies principals use in the maintenance of school plants and the effective administration in Rivers State. This conclusion is supported by Igbokwe's (2009) study, which found that physical resources were not being efficiently handled by either the school or its occupants, leading to over-utilization of available resources and inadequate maintenance of physical facilities.

The difficulties faced in maintaining the school infrastructure in schools in Rivers State encompass a range of issues. These include mismanagement of maintenance funds, lack of proper oversight by the school administration, insufficient funding for upkeep, substandard quality of facilities and equipment, lack of awareness and engagement from staff regarding maintenance practices, neglect of administrative responsibilities by school leaders due to disinterest, shortage of skilled maintenance staff, and instances of vandalism and misuse of school property. Addressing these challenges will require a comprehensive approach to improve the overall condition and functionality of school facilities. Furthermore, the test of hypothesis two revealed that there is a substantial correlation between the principals' administrative challenges in school plant maintenance and the effective administration. These findings are corroborated by a study by Alonsabe (2011), which revealed that the inadequate maintenance of infrastructure and equipment in Nigerian schools is often due to the limited resources available to school administrators. Despite their earnest desire to implement maintenance programs, lack of funds hinders their ability to purchase necessary tools and pay for regular maintenance activities. This highlights the importance of addressing financial constraints to improve the overall upkeep of school facilities.

CONCLUSION

Principals face challenges when it comes to maintaining the school plant, as there is often a lack of clarity regarding who is responsible for covering maintenance costs - whether it be the principals or the State Ministry of Education. Additionally, a significant administrative hurdle for principals is dealing with the negative attitudes towards school administration that can hinder effective maintenance efforts. The study concludes that principals would benefit from clear guidelines and support from the State Ministry of Education to effectively manage and maintain the school plant. Furthermore, addressing negative attitudes towards school administration through professional development and communication strategies could improve overall maintenance efforts and create a more conducive learning environment for students.

RECOMMENDATIONS

1. There is a need for government to engage the services of professionals in each public school across the State, who have adequate knowledge to ensure effective maintenance of school plants.
2. There is a need for the government to create an enabling environment for principals to thrive in their administrative responsibilities by making policies that are realistic and achievable is highly crucial.

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